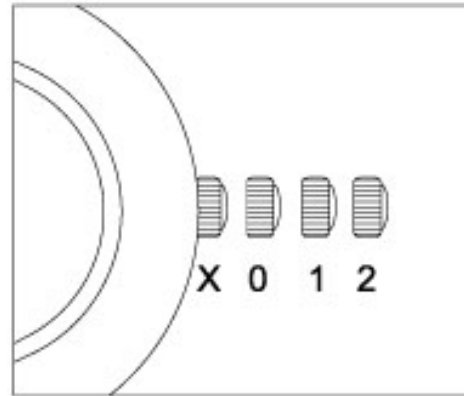


BALL Chronograph Operating Instructions

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Automatic Watch

X = normal position
0 = winding position
1 = date adjustment
2 = setting the time



- **Manual Winding:** If the watch has not been worn for a long period of time, wind the movement before setting the time. Unscrew the crown to position 0, then turn the crown clockwise 20 to 30 times.
- **Time Setting:** To set the time, unscrew the crown and pull out to position 2. Push the crown back into position X when the correct time is reached. When setting the time, please ensure that the date display is also set correctly. It should advance at midnight. If it advances at noon, you will need to turn the hands forward 12 hours.
- **Date Setting:** After months with less than 31 days, you need to set the date to the first day of the next month. To do so, unscrew the crown and pull it out to position 1. Turn the crown clockwise to set date. On watches with Day function, turn the crown counterclockwise to set the Day. To prevent damage to the date-switching mechanism, we advise not to manually reset the date between 9pm and 3am.
- **Always remember to screw down the crown after adjustment, to ensure water resistance and prevent possible damage to the movement.**

Remarks: Automatic watches acquire their energy from an oscillating weight which is activated in response to the movements of your wrist. Depending on the model, the power reserve ranges from 36 to 48 hours. Manual winding is only necessary if the watch has not been worn for a long period of time, or if it has stopped.

Depending on the type of movement, the accuracy of a mechanical movement may vary one to two minutes per week. Accuracy is strongly influenced by the way the watch is worn.

Automatic Chronograph

The crown has 3 positions:

Position 1: Running position and manual winding

Position 2: Correction of date and day

Position 3: Time setting with stop-second

2 Push-buttons:

Push-button at 2 o'clock: Start-stop of chronograph

Push-button at 4 o'clock: Return to zero of chronograph



Chronograph function: First ensure that the crown is in position 1 and that the chronograph hands are reset to zero.

- **P1.** Upper start/stop control push-button This push-button enables you to start and stop the chronograph function. Pressing once starts the central second hand. As soon as the second hand has revolved once around the dial the minute hand is set into action. Pressing again stops these hands and a third push sets the chronograph function working again.
- **P2.** Lower return-to-zero push-button After stopping the chronograph by pressing the upper control push-button P1, press the lower push-button P2 to reset the counters to zero. This push-button only functions when the counters are stopped.
- **Running second hand:** Most Ball chronographs feature running seconds in the subdial at 9 o'clock. The **Trainmaster Cannonball** features running seconds at the unusual 3 o'clock position.
- **Chronograph second hand:** Start and stop by pressing the upper push-button P1. Reset to zero by pressing lower push-button P2.
- **Minute counter:** Indicates the minutes elapsed from the start time by moving forward one unit for each complete revolution of the second hand. Reset to zero by pressing push-button P2.
- **Hour counter:** Indicates the hours elapsed from the start time by moving forward one unit for each two complete revolutions of the minute counter. Reset to zero by pressing push-button P2.

Triple Date

The Triple Date function may also be known as the Month, Day, Date feature. The **Trainmaster Racer** and limited edition **Trainmaster Doctor's Chronograph** boast a new Ball in-house development, the linear Triple Date function. This feature shows the Month, Day and Date in a row at the 3 o'clock position for ease of use.

To set the functions, unscrew the crown and pull it out to position 1. Turn the crown clockwise to set Date. To set the Day function, turn the crown counterclockwise.

The Month function is set in the same manner as the Date. By rotating the Date through all 31 days, the Month wheel will move forward to the next Month.

To prevent damage to the date-switching mechanism, we advise not to manually reset the Triple Date between 9pm and 3am.

Single-button Chronograph

See instructions for automatic chronograph, with the following changes.

Push-button at 2 o'clock: Start-stop & Reset of chronograph

P1. Upper start/stop/reset control push-button

This push-button enables you to control all chronograph functions. Pressing once starts the central second hand. Pressing again stops the hand and a third push resets the chronograph hand to zero again.

Models using the Ball Single-button Chronograph are the **Trainmaster Pulsemeter Pro** and the limited edition **Trainmaster Doctor's Chronograph**.

Pulsemeter Scale

The pulsemeter function measures human respiration or pulse rate. The wearer can simply read off the correct respiration / pulse per minute by counting the time needed for the listed number of pulsations.

Description of Operation

The Pulsemeter scale simplifies the measure of pulse by allowing the wearer to directly record the pulsation rate. Instead of counting the pulses over a short period of time, simply count the pulsations & stop the timer. The pulsemeter scale then displays the exact pulse rate.

The original **Trainmaster Pulsemeter** is marked "Graduated for 30 Pulsations." If after the 30th pulse, the operator stops the chronograph counter at 20 seconds, reading from the stopped second hand on the pulsemeter scale will result in a pulsation rate of 90 beats per minute. The pulsation scale can be used to measure any type of repetitive action, by simply measuring 30 units of the action.

The **Trainmaster Pulsemeter Pro** and limited edition **Trainmaster Doctor's Chronograph** are configured for measurement of 15 Pulsations only. Combined with the single-button chronograph to allow for quicker measurement of pulse and respiration rates, the 15-pulse scale also minimizes human error due to reaction time to ensure a more accurate reading.

Tachymeter Scale

To compute the speed of a car over a certain distance, reset the chronograph second hand to zero position, then press the top chronograph button P1 to start timing. At the end of the fixed distance, press the button again. If the time elapsed is 45 seconds, the second hand should point to the figure 80 on the Tachymeter scale. If the fixed distance is a kilometer then the car is traveling 80 kilometers per hour. If the distance covered is a mile, then the speed is indicated in miles per hour, in this example 80 MPH.

The inner spiral of the **Trainmaster Pulsemeter** is a tachymetric scale capable of measuring elapsed time of up to 3 minutes. If for example, the time elapsed is 1 minute 30 seconds, the second hand will point to the figure 40 on the 2nd ring of the Tachymeter scale. Over a distance of 1 mile, the car is thus traveling at 40MPH.

The limited edition **Fireman Skylab** has a tachymeter scale on the outer bezel for measurement of elapsed times up to 1 minute.

Telemeter Scale

The telemetric scale of the **Engineer Master II Telemeter** can easily measure the distance between the observer and a situation that is both visually and audibly observable, like lightning & thunder or artillery fire as in the World Wars, based on the speed of sound through air (approximately 340 meters per second).

Description of Operation

The push- buttons P1 and P2 are screw-in type; they have to be unscrewed in order to function. This better ensures water resistance when they are not in use.

Please refer to the automatic chronograph operating instructions to reset the chronograph counter to zero position.

Start the chronograph by pressing push-button P1 on an optical signal (a flash of lightning) and then stop the counter by pressing the same button when the audio signal (thunder) is heard. The distance will be indicated on the telemetric scale in kilometers, pointed by the position of the chronograph second hand.

Rotating Bezel

The **Engineer Hydrocarbon** series features a unidirectional rotating outer bezel incorporated with LumiNova for night reading. The bezel is painted with 60 minutes elapsed time notation. The 60 minutes bezel can be used for timing events by setting the zero dot at the current minute.

The **Engineer Master II Diver** models feature another Ball breakthrough, the first inner divers' bezel incorporated with 3H micro gas lights. After unscrewing the upper crown, the inner bezel rotates bidirectionally to measure duration. To ensure optimal water resistance, the crown must then be screwed down before diving.

Caring for your BALL watch

Like a car engine, we recommend that you have your mechanical BALL Watch checked, cleaned and lubricated by us or authorized BALL service center every three to five years. This regular maintenance will prevent movement wear due to the drying of lubricating oils.

Your BALL Watch requires a certain amount of care. A few basic recommendations will help you to ensure its reliability and keep it looking new.

- **Magnetic Fields:** The Ball Engineer, Engineer Master & Engineer Hydrocarbon collections are all equipped with soft iron inner antimagnetic case for improved resistance. Nevertheless, please avoid placing your watch on refrigerators or loudspeakers as they generate powerful magnetic fields.
- **Cleaning:** Be sure to rinse your watch regularly with fresh water, especially after it has been in salt water. This will help preserve its appearance and running condition.
- **Shocks:** Although your BALL Watch has been built to withstand shock according to the highest standard in the industry, extreme impact against this precision instrument should still be avoided. A strong impact on the winding crown or the crystal can impair the water resistance.
- **Strap:** Our straps are made of finest calf, crocodile or alligator leather and are protected against humidity. To prolong the life of your leather strap, please avoid contact with water and dampness to prevent discoloration and deformation. Should the strap be immersed in salt water, we suggest that you rinse it with fresh water to prevent further damage. Please also avoid contact with greasy substances and cosmetic products, as leather is permeable.

If you have any further inquiries on your Ball Watch, please use our [Enquiry Form](#) or send e-mail to info@ballwatch.com.